

# (1) What is a greenhouse gas?

- (A) A gas that doesn't absorb much solar radiation but does absorb some terrestrial (longwave infrared) radiation.
- (B) A gas produced by human activities that pollutes the air and is toxic to living organisms.
- (C) A gas that is responsible for keeping the air inside greenhouses warm.

(2) What happens when longwave infrared (LWIR) radiation emitted by the earth's surface reaches a cloud?

- (A) The cloud reflects the LWIR radiation back downward.
- (B) The cloud absorbs the LWIR radiation
- (C) The cloud transmits the LWIR radiation (that is, the radiation passes through the cloud unaffected).
- (D) All of the above, in roughly equal measure.

(3) On the average, roughly how much of the solar radiation arriving at the top of the atmosphere is ultimately absorbed by the earth's surface?

(A) about 10%

(B) about 50%

(C) about 90%

(4) Of the solar radiation that reaches the earth's surface, of what wavelengths does it consist, mostly?

- (A) Mostly visible light (other wavelengths are mostly absorbed) .
- (B) Mostly short wavelengths of infrared radiation (clouds reflect most of the visible light back to space).
- (C) Mostly ultraviolet radiation (though some visible light gets through, too).
- (D) Mostly longwave infrared radiation.